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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,026	12/31/2001	Rajendran S. Michael	24970A	2300
22889	7590	03/08/2004	EXAMINER	
OWENS CORNING 2790 COLUMBUS ROAD GRANVILLE, OH 43023			TORRES VELAZQUEZ, NORCA LIZ	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 03/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/039,026

Applicant(s)

MICHAEL, RAJENDRAN S.

Examiner

Norca L. Torres-Velazquez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-14 and 27-42 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-14,27-42 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-12 and 27-30 have been considered but are moot in view of the new ground(s) of rejection.

a. Applicants argue that the Byma reference fails to teach or suggest the arrangement of lofted and compacted regions with varying thicknesses for selectively absorbing sound energy as claimed in amended claim 1. The Examiner includes a new rejection over Souders to address the newly added limitations.

b. The 35 U.S.C. 112, second paragraph rejection of claims 12-14 and 29 has been withdrawn in view of Applicants amendment to the claims.

c. New claims 31-42 have been considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-4, 8, 11-14 and 27-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over SOUDERS (US 5,591,289) in view of BAKHSHI et al. (US 5,736,475).

SOUDERS discloses a fibrous headliner for a motor vehicle passenger compartment formed with a nonwoven high loft batting of thermoplastic fibers having a low percentage of binder fibers. (Abstract) In Figures 2 and 3, the reference shows a headliner 10 that comprises a fibrous core 26 that is formed from a nonwoven high loft batting of polymeric thermoplastic

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fibers having a small percentage of low melting temperature binder fibers that have been formed into a web that is then needled to different degrees on the opposite sides thereof. (Column 4, lines 33-38) The reference teaches the use of polymeric fibers of a thermoplastic polymer such as polyester, polypropylene, polyethylene terephthalate, among others. (Refer to Column 4, lines 46-60). It is further noted that Fig. 2 shows a headliner, which has a contoured shape.

With regards to the variation in thickness of the base portion, it is noted that SOUDERS et al. teaches varying the fiber content and/or the denier of the high loft batting and/or the weight of the fiber portion to tune the headliner to a particular passenger compartment installation in the construction of the headliner. (Column 3, lines 3-8) The reference further teaches that the batting is needled on both sides to different depths and degrees to form integral skin layers of fibers therein wherein the layer on the roof side is significantly thicker and more dense than the skin layer on the passenger compartment side and is spaced a substantial distance therefrom. (Column 2, lines 24-29)

It is the Examiner's interpretation of SOUDERS teachings that the thickness of the layer will depend on the end use or location of the particular region. Therefore, the claimed first and second lofted regions and the highly compacted region of the present invention would read on the teachings of SOUDERS and as it is shown in Figure 2, the regions can have different thicknesses to fit into the particular regions of a compartment.

However, SOUDERS fails to teach the use of a composite material that comprises both mineral fibers and organic fibers.

BAKHSHI et al. discloses a method for manufacturing a mineral fiber product which includes the step of directing fibers of polymeric material toward a stream of mineral fibers into

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entanglement with the mineral fibers and applying heat to the polymer fibers so that some of them become softened to the extent that they lose their fibrous form and become attached to the mineral fibers as nonfibrous particles. The reference further discloses that the product made by the method of their invention produces an insulation product having a greater degree of flexibility and handleability than typical insulation products. (Column 2, lines 18-48) Further, the reference teaches the use of PET (polyethylene terephthalate) and that the mineral fibers are glass fibers. (Refer to Column 3, line 55 and Column 4, lines 66-67)

Since both SOUDERS and BAKHSHI are directed to insulation materials, and both have the objective of producing flexible insulation, the purpose disclosed by BAKHSHI would have been recognized in the pertinent art of SOUDERS.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the headliner of SOUDERS and provide it with a composition that comprises mineral fibers and polymeric fibers with the motivation of producing an insulation product with a greater degree of flexibility and handleability than typical insulation products as disclosed by BAKHSHI above.

4. Claims 5-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over SOUDERS (US 5,591,289) in view of BAKHSHI et al. (US 5,736,475) as stated above and further evidenced by BYMA (US 6,413,613 B1).

While SOUDERS and BAKHSHI et al. are silent to the use of separate components attached to the base portion, it is noted that the BYMA reference discloses that the conventional structures in the art use additional/separate energy management elements to the structure to

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provide different levels of energy management. (Refer to Column 4, lines 25-35). Therefore, the use of additional/separate elements is well known in the art of headliners.

5. Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over SOUDERS and BAKHSHI et al. in further view of ERICKSON (WO 00/44561).

BAKHSHI et al. and SOUDERS fail to teach the use of a fabric layer and foam.

ERICKSON discloses a thermoformable laminate, which can be shaped and compressed in a thermoforming tool to form a vehicle headliner with at least one integral impact absorption area. (Page 2, lines 8-10) The thermoformable laminate includes a rigid thermoplastic foam sheet 12 and a fiber-reinforcing layer (layers 14 and 15) adhered to each of two opposite faces of the rigid thermoplastic sheet. (Page 2, lines 22-23) The reference teaches that headliner 20 is prepared by heating the thermoformable laminate 10 to the thermoforming softening temperature range of the rigid thermoplastic foam sheet 12, and shaping and compressing the laminate in a tool having a cavity of varying thickness, to form a vehicle headliner 20 having variable thickness, including a major portion, such as portion 22, which is relatively thin, dense and highly compressed, as compared with the relatively thin, lower density, lightly compressed or noncompressed impact absorption areas 24, 25. (Page 3, lines 12-20)

The reference further teaches that the fiber reinforcing layers 14, 15 may be comprised of reinforcing glass fibers or reinforcing thermoplastic fibers, which are adhesively bonded to each of two opposite faces of rigid thermoplastic foam sheet 12. Examples of suitable thermoplastic fibers include polypropylene fibers, nylon fibers and polyethylene terephthalate (PET) fibers. The reinforcing fibers may be adhered to the foam sheet in the form of a nonwoven fabric or scrim by a thermoplastic hot-melt adhesive. An upholstery fabric 16 is adhesively bonded to

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fiber reinforcing layer 15, the upholstery layer 16 is preferably a pliable composite comprising an outer, exposed fabric 17, which is adhered to a flexible foam backing layer 18. (Page 5, lines 4-28)

Since then references are all directed to insulation materials, the purpose disclosed by ERICKSON would have been recognized in the pertinent art of BAHKSHI et al. and SOUDERS.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the liner and provide with a fabric layer and a foam layer with the motivation of providing some rigidity to the liner as disclosed by ERICKSON (page 3, lines 22-34 through page 4, lines 1-5), further the fabric is used to provide the liner with an aesthetically exposed outer layer as it is used in the ERICKSON reference. (Refer to teachings on Page 5, lines 25-28)

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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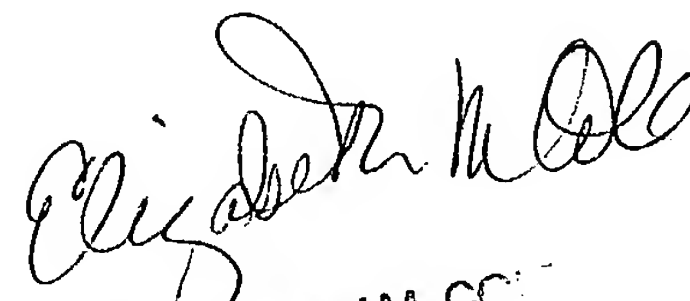
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Norca L. Torres-Velazquez whose telephone number is 571-272-1484. The examiner can normally be reached on Monday-Thursday 8:00-4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terrel Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Norca L. Torres-Velazquez
Examiner
Art Unit 1771

February 26, 2004


ELIZABETH M. COOK
PRIMARY EXAMINER